

AMENDMENTS TO THE SPECIFICATION

Please amend paragraphs 7 and 14 of the specification as follows:

[0007] The force generator is improved by substituting first and second radially magnetized permanent magnets in place of the axially magnetized permanent magnet of the prior art design. The magnets are axially spaced, are mounted on a longitudinally extending magnetic steel tube and are generally aligned with electric coils provided in the inner surface of a surrounding housing. Since the magnets are radially magnetized, the magnetic flux created by the magnets acts directly on the coils, therefore the end plates may be removed from the armature. To further improve the transfer of magnetic flux between the magnets and the coils, as well as the tube, the axial lengths of the coils and the tube [[is]] are preferably increased to the axial lengths of the magnets to allow the electrical resistance to be maintained or reduced below that achieved in smaller cross section wire coils.

[0014] Within the chamber 16 an armature 28 is reciprocably supported. Armature 28 includes at least two radially magnetized hollow cylindrical permanent magnets 30, 32 axially spaced and mounted on the exterior of a longitudinally extending core, such as a magnetic steel tube 34. The tube desirably supports and maintains a magnetic flux path through the magnets over approximately their full lengths, as shown in FIG. 3. Preferably, the magnets are formed of a magnetic material such as ferrite or any other suitable magnetic material. The magnets 30, 32 are radially magnetized in opposing directions so that the north N and south S poles of one magnet 30 are at its radially inner and outer surfaces while the N and S poles of the other magnet 32 are respectively at its outer and inner surfaces. Magnets 30, 32 may be ring magnets as shown or may be formed with any desired configuration. The magnetic steel tube 34 is preferred because the cavity inside the tube provides a convenient location to add weight to aid in adjusting the resonant frequency of the actuator. However, the magnetic steel tube 34 may be replaced by a solid core.